

IMPROVED PROTEIN EXPRESSION BY CODON HARMONIZATION AND TRANSLATIONAL ATTENUATION

ABSTRACT

[138] The present invention is based in the fields of molecular genetics and recombinant protein expression. The invention features compositions and methods for increasing the expression levels of proteins expressed in non-natural hosts. Increased expression levels are achieved by expression of a translationally-harmonized nucleic acid that is created by substituting certain codons having low or intermediate usage frequency in the natural host with synonymous codons that have low or intermediate usage frequency in the non-natural host.